

Table A: Proposed CALSIM II Baseline Inputs for Common Assumptions

The following assumptions are for purposes of creating baselines for the re-licensing modeling effort.

	Existing Condition¹
Period of Simulation	73 years (1922-1994)
HYDROLOGY	
Level of Development (Land Use)	2001 Level, DWR Bulletin 160-98 ²
Demands	
<u>North of Delta (exc American R)</u>	
CVP (non-settlement)	Land Use based, limited by Full Contract
(Settlement)	Land Use based, limited by Full Contract
SWP (FRSA)	Land Use based, limited by Full Contract
Non-Project	Land Use based
<u>CVP Refuges</u>	Firm Level 2 ³
<u>American River Basin</u>	
Water rights	2001 ⁴
CVP	2001 ⁵
<u>San Joaquin River Basin</u>	
Friant Unit	Regression of historical
Lower Basin	Fixed annual demands
Stanslaus River Basin	New Melones Interim Operations Plan
<u>South of Delta</u>	
CVP	Full Contract
CCWD	140 TAF/YR ⁶
SWP (w/ North Bay Aqueduct)	3.0-4.1 MAF/YR
SWP Interruptible Demand	MWDSC up to 50 TAF/month, Dec-Mar, others up to 84 TAF/month

¹ This represents the CEQA condition of “existing conditions” as assumed by the Common Assumptions Work Group.

² 2001 Level of Development defined by linearly interpolated values from the 1995 Level of Development and 2020 Level of Development from DWR Bulletin 160-98

³ It is assumed that Level 4 supplies are obtained through water transfers and are not part of the basic operating demands in CALSIM.

⁴ 1998 Level Demands defined in Sacramento Water Forum’s EIR with a few updated entries; assumptions for each purveyor are presented in Appendix B

⁵ Same as footnote 6

⁶ Delta diversions include operations of Los Vaqueros Reservoir operations

	Existing Condition ¹
FACILITIES	
System-wide <u>Upper American River</u>	Existing Facilities (2001) PCWA pumps ⁷
REGULATORY STANDARDS	
<u>Trinity River</u>	
Minimum Flow below Lewiston Dam	Trinity EIS Preferred Alternative (369-815 TAF/YR)
Trinity Reservoir End-of-September Minimum Storage	Trinity EIS Preferred Alternative (600 TAF as able)
<u>Clear Creek</u>	
Minimum Flow below Whiskeytown Dam	Downstream water rights, 1963 USBR Proposal to USFWS and NPS, and USFWS discretionary use of CVPIA 3406(b)(2)
<u>Upper Sacramento River</u>	
Shasta Lake End-of-September Minimum Storage	SWRCB WR 1993 Winter-run Biological Opinion (1900 TAF)
Minimum Flow below Keswick Dam	Flows for SWRCB WR 90-5 and 1993 Winter-run Biological Opinion temperature control, and USFWS discretionary use of CVPIA 3406(b)(2)
<u>Feather River</u>	
Minimum Flow below Thermalito Diversion Dam	1983 DWR, DFG Agreement (600 CFS)
Minimum Flow below Thermalito Afterbay outlet	1983 DWR, DFG Agreement (1000 – 1700 CFS)
<u>Yuba River</u>	
Minimum Flow below	SWRCB D-1644
<u>American River</u>	
Minimum Flow below Nimbus Dam	SWRCB D-893 (see accompanying Operations Criteria), and USFWS discretionary use of CVPIA 3406(b)(2)
Minimum Flow at H Street Bridge	SWRCB D-893
<u>Lower Sacramento River</u>	
Minimum Flow near Rio Vista	SWRCB D-1641
<u>Mokelumne River</u>	
Minimum Flow below Camanche Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (100 – 325 CFS)
Minimum Flow below Woodbridge Diversion Dam	FERC 2916-029, 1996 (Joint Settlement Agreement) (25 – 300 CFS)
<u>Stanislaus River</u>	
Minimum Flow below Goodwin Dam	1987 USBR, DFG agreement, and USFWS discretionary use of CVPIA 3406(b)(2)
Minimum Dissolved Oxygen	SWRCB D-1422
<u>Merced River</u>	
Minimum Flow below Crocker-Huffman Diversion Dam	Davis-Grunsky (180 – 220 CFS, Nov – Mar), and Cowell Agreement
Minimum Flow at Shaffer Bridge	FERC 2179 (25 – 100 CFS)

⁷ The Placer County Water Agency facility is just about to begin construction – pumps in American River upstream of Folsom

	Existing Condition¹
<u>Tuolumne River</u>	
Minimum Flow at Lagrange Bridge	FERC 2299-024, 1995 (Settlement Agreement) (94 – 301 TAF/YR)
<u>San Joaquin River</u>	
Maximum Salinity near Vernalis	SWRCB D-1641
Minimum Flow near Vernalis	SWRCB D-1641, and Vernalis Adaptive Management Program per San Joaquin River Agreement
<u>Sacramento River-San Joaquin River Delta</u>	
Delta Outflow Index (Flow and Salinity)	SWRCB D-1641
Delta Cross Channel Gate Operation	SWRCB D-1641
Delta Exports	SWRCB D-1641
OPERATIONS CRITERIA	
Subsystem	
<u>Upper Sacramento River</u>	
Flow Objective for Navigation (Wilkins Slough)	Discretionary 3,500 – 5,000 CFS based on Lake Shasta storage condition
<u>American River</u>	
Folsom Dam Flood Control	SAFCA, Operation of Folsom Dam, Variable 400/670 (without outlet modifications)
Flow below Nimbus Dam	Discretionary operations criteria corresponding to SWRCB D-893 required minimum flow
Sacramento Water Forum Mitigation Water	None
<u>Stanislaus River</u>	
Flow below Goodwin Dam	1997 New Melones Interim Operations Plan
System-wide	
<u>CVP Water Allocation</u>	
CVP Settlement and Exchange	100% (75% in Shasta Critical years)
CVP Refuges	100% (75% in Shasta Critical years)
CVP Agriculture	100% - 0% based on supply
CVP Municipal & Industrial	100% - 50% based on supply
<u>SWP Water Allocation</u>	
North of Delta (FRSA)	Contract specific
South of Delta (including North Bay Aqueduct)	Based on supply; Equal prioritization between Ag and M&I
<u>Delta Pumping</u>	
<u>Banks pumping</u>	6,680 cfs, can increase up to 8,500 cfs Dec15-Mar15 (min. of 300 cfs)
<u>Tracy pumping</u>	4,600 cfs (minimum of 800 cfs)

<u>CVP/SWP Coordinated Operations</u> Sharing of Responsibility for In-Basin-Use Sharing of Surplus Flows Sharing of Restricted Export Capacity	Coordinated Operations Agreement Coordinated Operations Agreement Equal sharing of export capacity under SWRCB D-1641; use of CVPIA 3406(b)(2) only restricts CVP exports; EWA use restricts CVP and/or SWP as directed by CALFED Fisheries Agencies
<u>CVPIA 3406(b)(2)</u> Allocation Actions Accounting Adjustments <u>CALFED Environmental Water Account</u> Actions Assets Debt restrictions	800 TAF/YR (600 TAF/YR in Shasta Critical years) 1995 WQCP (non-discretionary), Fish flow objectives (Oct-Jan), CVP export reduction (Dec-Jan), VAMP (Apr 15- May 16) CVP export restriction, 3000 CFS CVP export limit in May and June (D1485 Striped Bass cont.), Post (May 16-31) VAMP CVP export restriction, Ramping of CVP export (Jun), Pre (Apr 1-15) VAMP CVP export restriction, CVP export reduction (Feb-Mar), Upstream Releases (Feb-Sep) Per February 2002 Interior Decision, no limit on responsibility for non-discretionary D1641 requirements, no Reset with the Storage metric and no Offset with the Release and Export metrics Total exports restricted to 4000 CFS, 1 wk/mon, Dec-Mar (wet year: 2 wk/mon), VAMP (Apr 15- May 16) export restriction, Pre (Apr 1-15) and Post (May 16-31) VAMP export restriction, Ramping of export (Jun) 50% of use of JPOD, 50% of any CVPIA 3406(b)(2) releases pumped by SWP, flexing of Delta Export/Inflow Ratio (not explicitly modeled), dedicated 500 CFS increase of Jul – Sep Banks PP capacity, north-of-Delta (0 - 135 TAF/Yr) and south-of-Delta purchases (50 - 185 TAF/Yr), and 200 ⁸ TAF/YR south-of-Delta gw storage capacity No carryover of debt past Sep in model now (may need to be modified), asset carryover ok

⁸ The EWA has contracted for groundwater storage in facilities owned and operated by Kern County Water Agency and Semitropic Water Storage District.